DOCUMENT RESUME

ED 185 784 EC 124 039

AUTHOR	Gibbs, Linda: And Others
TITLE	Assistive Devices for Handicapped Students: A Model and Guide for a Statewide Delivery System.
INSTITUTION	National Association of State Directors of Special Education, Washington, D.C.
PUB DATE	Feb 80
NOTE	32p.
AVAILABLE FROM	National Association of State Directors of Special Education, 1201 Sixteenth St., N.W., Washington, DC 20036 ($4.50)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Delivery Systems: Disabilities: Electromechanical Aids: *Equipment: Mobility Aids: *Models: *Physical Disabilities: *Program Development: Prostheses: *Resource Centers: Sensory Aids

ABSTRACT

The document describes a model for an assistive device center that can provide a cost effective, coordinated delivery system to assure that handicapped students who need adaptive aids and equipment have access to them and are trained in their most efficient use. The model is explained in terms of purposes and objectives, personnel, location and facilities, services and implementation, education and outreach, and interagency cooperation and funding. Guidelines for implementation and an estimated budget are presented for the model's four phases: planning and awareness, design and development of operating procedures, full scale operation, and full scale operation on a fee for services basis. Appended are brief descriptions of seven assistive device centers and two government agencies involved in funding, a list of vendors of assistive devices, and a list of resources. (SBH)

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Assistive Devices for Handicapped Students

A Model and Guide for a Statewide Delivery System

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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February 1980

Photographs in this publication were provided by Project TEACH, Rehabilitation Engineering Program, Center for the Health Sciences, The University of Tennessee, Memphis, Tennessee, Elaine Trefler, OTR, M.Ed., Associate Professor, and Edward Stahl, Jr., Graphic Coordinator.

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PREFACE

This publication describes a model for an assistive device center that can provide a cost-effective, coordinated delivery system to assure that handicapped students who need adaptive aids and equipment have access to them and are trained in their most efficient use. The document includes a guide for implementation of the model and a comprehensive listing of available resources throughout the country.

Target audiences for this publication include State Education Agencies, particularly individuals in the SEA who are responsible for physically handicapped and orthopedically impaired children; parent groups; rehabilitation specialists and other professionals who provide services to children with handicaps; organizations serving handicapped children, and similar groups.The document also should serve as a valuable resource for university personnel training rehabilitation engineers, occupational therapists, physical therapists, speech pathologists, audiologists, and other specialties as well as special education personnel.

The assistive device center model was developed by NASDSE as part of a project for the Missouri State Department of Education to provide a comprehensive system for the delivery of technological resources to handicapped students. During an intensive six-month period, NASDSE gathered available data on effective service delivery systems nationally, compiled a list of available resources, and then utilized the following procedures to develop a model for an assistive device center:

1. A national survey, site visits, and discussions with vendors were used to obtain information that served as the basis for an initial "straw person" assistive device center model;
2. This draft model was sent to key individuals, centers, universities, and vendors for review.
3. The model was revised on the basis of the review and the revised model was sent to key individuals in state and local education agencies, regional resource centers, national organizations, universities, and vendors. This second draft also was distributed to a committee of experts at the 2nd Annual Interagency Conference on Rehabilitation Engineering in Atlanta in August 1979.
4. The model was revised once again based on input from this second review.

It was evident from the study that while some centers for assistive devices do exist, none provide comprehensive services; most, especially those housed in traditional rehabilitation facilities and Veterans Administration institutions, often serve only adults. However, there is a dramatic difference in emphasis when serving children, in terms of the child's specific needs and the necessity for counseling, modifying equipment, training in the use of the devices, evaluation, and followup.

The authors wish to thank Dr. Leonard Hall, Missouri State Department of Education, for his foresight in recognizing a need for developing a coordinated statewide delivery system and for his willingness to share the findings and the model developed in the Missouri study through this publication. We also acknowledge with thanks those persons of various disciplines who reviewed drafts and contributed their expertise and guidance to the project. Linda Gibbs, Gary Snodgrass, and Sharon Walsh of the NASDSE staff provided the major portion of the philosophy, content, and format of the report. We owe special recognition to Eileen Lavine, Bethesda, Maryland, for her editorial guidance and assistance in producing this complete publication.

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INTRODUCTION

For many students with handicaps, successful learning depends on the use of assistive devices — specialized aids, materials, or adaptive equipment that can improve the student's capability to learn and provide interaction with the environment.

Mobility, positioning, communication, and self-help devices are the primary types of aids in use. For example, a student with significant physical impairment may not have sufficient motor control to speak or gesture. Computerized synthetic speech or communication boards may make it possible for the student to communicate, an ability that is an integral part of the total educational environment. Mobility affects a child's concepts of space, movement, and distance. A motorized wheelchair thus may provide experience and independence for a student who is unable to walk unassisted.

But for this technology to be most beneficial, an effective and coordinated delivery system of technological services is essential. The objective is to assure that students in need of adaptive aids and equipment have access to them and are trained in their most efficient use.

Providing an appropriate assistive device involves more than merely purchasing a commercial device from a catalog. Without careful, expert fitting of the appropriate device to the individual, precious learning time and limited dollars may be wasted. It is almost impossible for individual teachers and administrators to keep abreast of the rapid developments in technology that can enhance the lives of handicapped students. Unfortunately, inappropriate equipment may be purchased from catalogs or salespersons, resulting in frustration and failure.

The effective provision of a delivery system includes in-depth assessment of positioning, mobility, communication and educational skills, as well as an evaluation of the individual's potential in all of these areas. A device must be chosen or developed to meet needs in all areas of the student's environment. Extensive training and followup assessment services are also needed to encompass the student's home, school, community, and vocational activities.

In the past, a variety of agencies have been involved in securing assistive devices for handicapped children, ranging from Easter Seal Societies and the March of Dimes to service clubs and others. With the advent of federal and state mandates and funding, university programs, hospitals and rehabilitation centers, state and local education agencies, and regional resource centers have also become concerned with service delivery. This has resulted in an increase in the availability of services, but also in a real concern that such fragmented, piecemeal service might be neither comprehensive nor cost-effective.

Although there have been significant technological advances in the development of assistive devices, there still remains the task of assuring that they become available to those persons who could benefit from them. To accomplish this goal, it is essential that all related disciplines — researchers, engineers, educators, manufacturers, therapists, and medical personnel — coordinate their efforts on a statewide and national basis.

Survey of Existing Systems

As part of the study undertaken for Missouri to develop the assistive device center model, NASDSE conducted a national telephone survey to determine what systems already existed to provide assistive device services to handicapped students and the extent of availability of these services. Responses were obtained from 49 states.

In general, it was determined that there is no one single office or individual responsible for or even aware of the availability of such services within the state. Often it was difficult to locate the most appropriate contact person; and many respondents at the state level were not aware of how services were being provided.

In most cases, services are not offered at the state level. The LEA often is responsible for providing necessary services and devices, with the state in some instances assisting in funding.

Regional resource centers often provide devices, usually as a lending service to allow LEAs to determine which devices they want to purchase. Only a few states described a state-administered distribution process.

Universities occasionally provide devices as well as assessment and training, often in coordination with medical schools and computer science and engineering departments. Other agencies providing services include developmental disabilities programs, vocational rehabilitation centers, state schools, hospitals, and crippled children's services. There appear to be few coordinated networks for information or distribution at the state level.

Respondents did express concern that a central resource center would provide better services, and that in addition to devices, there is a need for training and technical assistance for users. Future objectives indicated by some respondents included development of a statewide mechanism for securing devices and an instructional materials center containing an inventory of assistive devices and providing assessment services.

A combination of communication systems is appropriate for a deaf child with cerebral palsy. Here the teacher gives verbal plus sign input, and the child responds on a Bliss Symbol Board.

Teen-age boy learns to saw with a myoelectrically-controlled prosthesis with an electric elbow and electric hand. Receiving an artificial arm is not enough; he must learn how to use it in a functional way.

Therapeutic seating and a communication board with words and symbols enable the severely involved child to take part more actively in the educational process.

I. ASSISTIVE DEVICE CENTER MODEL

The following is a model for an assistive device center serving handicapped children and youth. The primary purpose of the center is to provide appropriate assistive devices, with assessment, evaluation, and guidance in their use, for individuals between the ages of birth and 21 who qualify for services and are counted as handicapped under P.L. 94-142, The Education for All Handicapped Children Act.

The feasible size of such a center appears to be one that has a capacity for serving about 700 students per year. Thus, the sponsor might be a state, a region, or a large metropolitan district.

Purposes and Objectives

The assistive device center would have the following objectives and capabilities:

- Evaluate the strengths and needs of handicapped students in terms of their potential to benefit from the use of assistive devices;
- Recommend devices for students based on the results of multidisciplinary assessments;
- Provide assistance in procurement of recommended devices for individual students;
- Ensure that each handicapped student is provided with an appropriate device at no cost, when the device is required for the student to benefit from special education*;
- Provide a focal point for the coordination of public and private agencies involved in providing funds and services to handicapped individuals under the age of 21 who need assistive devices to benefit from special education;
- Provide inservice education to persons working with handicapped students;
- Provide followup services for students assessed in the center;
- Provide preservice training for persons entering fields related to development and delivery of assistive devices;
- Evaluate the effectiveness of commercially and privately developed assistive devices;
- Identify needs for development, design and modification of devices to meet individual needs;
- Disseminate information regarding assistive devices and techniques for their use throughout the area;
- Provide training in the proper use of devices;
- Provide consultation to local public and private schools;
- Facilitate communication between educators, ancillary services, and medical professionals serving handicapped students;
- Maximize the cost/benefit ratio of services/devices.

In planning and establishing an assistive device center, staff members will need time to visit existing centers to bring back the best of what others are doing and to incorporate or adapt these procedures and techniques where possible and relevant. This kind of interchange of information and experience is an important component of the model.

* In this context, the term special education is extended beyond the classroom to include all aspects of the individual's independence and development potential, i.e. his/her total environment.

Personnel

The assistive device center should include the following personnel:

Center Director

The center director is responsible for the overall administration of the center, including budget preparation and implementation, coordination with other agencies, and implementation of statewide awareness and inservice training activities.

Rehabilitation/Biomedical Engineer

Assesses the strengths and needs of students as they relate to the need for assistive devices and supervises the fitting and refitting of commercial devices. Designs or adapts devices or device interfaces when they are not commercially available.

Technician

Fabricates, maintains, and repairs assistive devices, positioning, and seating systems; works under the direction of the rehabilitation engineer.

Physical/Occupational Therapist

Assesses the impact of positioning as it relates to the use of assistive devices. Recommends positioning devices where appropriate. Assesses the strengths and needs of students as they relate to the selection of assistive devices. Recommends physical/occupational therapy when appropriate.

Speech/Language Pathologist

Assesses language, communication function, and communication needs. Recommends appropriate vocabulary and/or symbol systems.

Information Specialist

Gathers intake information on students. Provides interface between the center and referring agencies regarding individual students and funding for devices recommended by the center. Maintains information on availability of devices. Responsible for dissemination of information about the center and the services it provides. Maintains communication with other service providers in the state and throughout the nation. Participates in in-service training programs regarding assistive devices throughout the state.

Consultants

Additional personnel including physicians, vendors, etc. should be employed on a consulting basis as needed.

Secretary

Provides clerical support to center staff.

GENERAL STAFF CONSIDERATIONS

Although the model center calls for relatively familiar staff titles—i.e., physical therapist, occupational therapist—typical university training for these personnel does not include experience with assistive devices. Employing staff with the necessary background and experience will be difficult. Traditional sources cannot be utilized. It is recommended that all positions be advertised through mailings to individuals and organizations identified in the resource lists provided in the Appendix.

Salaries for individual positions may need to be somewhat higher than similar positions in more traditional settings. If this is possible, it will provide an incentive for individuals with extra training and experience to apply. It is important to determine what salaries are being paid by various agencies and organizations in the surrounding geographic area before salaries are established.

Location and Facilities

The location of the center is critical if it is to reach the target population. Ideally, the center will be located near, or be a part of, an existing facility that serves severely handicapped students. University clinics, children's hospitals, community medical centers, and public schools should be considered. The availability of support personnel (occupational therapy, physical therapy, engineering) is an important consideration in determining which of these settings is selected.

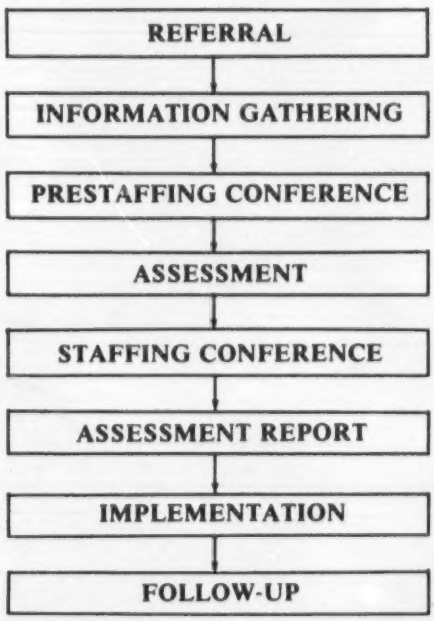
A barrier-free space of approximately 10,000 sq. ft. is needed. It must include:

- Reception room
- Staffing and conference rooms
- Administrative and office space
- Assessment areas with two-way mirrors
- Workshops for engineering, modification, and fabrication of devices
- Space for equipment storage

Direct Service

The center should have the initial capacity to assess approximately 200 individuals a year, as well as provide followup and re-evaluation for others. The recommended total center capacity of 700 would be reached after several years of full-scale operation.

The sequence of activities would follow this flow:



REFERRAL

Any student enrolled in a special education program in the area could be referred to the center by local school district personnel. Such referrals should be made only when there is reason to believe that an assistive device is required for the student to benefit from special education and related services.

INFORMATION GATHERING

Prior to scheduling an evaluation, preliminary information should be obtained through written reports, video-tapes of daily activities, and, when appropriate, onsite visits with the referred student, family, and associates. When possible, videotapes done in accordance with a predefined protocol should be prepared for viewing at the prestaffing conference.

Forms should be completed by parents, teachers, etc. in order to obtain critical information regarding communication and learning needs and the environment in which the devices will be utilized.

In addition, at a minimum, current evaluation information required for special education placement should be

obtained in physiological, speech and language, sensory, cognitive, motor, and educational areas.

It is essential that information be obtained from the child's physician(s) at this stage, and that a close continuing relationship between center staff and the physician be maintained.

PRESTAFFING CONFERENCE

Prior to assessment, a meeting should be held by center personnel:

- To review and discuss all information available on the individual;
- To determine areas of information which need to be obtained through interview and assessment;
- To determine which staff will be involved in assessment;
- To schedule assessment activities.

ASSESSMENT

Individual assessments may be conducted, but most assessment activities should be undertaken through a team problem-solving approach including selected staff, the referred student, and whenever possible, important other persons including parents, teachers, etc.

In most cases, the assessment will take no more than one day; however, provisions should be made for students who require more extensive periods of time.

Areas to be considered include:

- Positioning and seating,
- Motor control,
- Communication capabilities,
- Communication needs,
- Motivation and enivronmental factors,
- Independent mobility,
- Transportation,
- Recreation/leisure-time activities.

STAFFING CONFERENCE

Recommendations should be discussed at the conclusion of the assessment process with the student, his/her family, teachers, and important other persons who have a relationship with the student in the home/school setting.

ASSESSMENT REPORT

A written assessment report should be developed and forwarded to the referring school district, the student's parents, and cooperating agencies, where appropriate. The written report should summarize the assessment activities and the findings of the team. Recommendations included in the report should be specific and clearly stated. Followup activities should be specified. If the staff recommends an assistive device, the report should indicate clearly whether the device is required for the student to benefit from special education.

IMPLEMENTATION

Determining what assistive device can work is the first step, followed by:

- Determining a method for *obtaining the device;*
- Providing *training* in the use of the device in all aspects of the student's environment;
- Recommending specific *instructional techniques* to be used with the device.

Obtaining the Device

When necessary, the center should provide for the loan of devices to handicapped students until it is determined, through use, that the device selected is appropriate.

When it is finally determined that the device is appropriate, the device should be provided for the individual through funds from an appropriate agency, organization, or third-party payer, or through "permanent" loan using P.L. 94-142 funds. The device should follow the student as long as it is needed regardless of moves to other schools or districts.

NOTE: P.L. 94-142 funds can be used to purchase equipment, but such equipment must remain government property.

The center staff should be cognizant of all the funding agencies available locally and nationally to purchase assistive devices for students. Specifically, the information specialist should:

- Assist students in the acquisition of devices recommended by the center;
- Work with other agencies and third-party payers to acquire funds for individual devices;
- Explore new sources of funding;
- Develop matching and contingency funds;
- Make presentations to potential funding sources including service organizations, etc.

In most cases, it will be necessary to modify devices to meet specific needs. Occasionally, however, it will be necessary to fabricate new devices to meet unique needs of individual students.

Training

Instruction in the care and use of the equipment should be provided to the individual, the family, and community members involved in the student's care or daily activities. Some strategies may need to be implemented in cooperation with local school personnel over an extended period of time.

Staff members should be available to travel to the individual's community, to work with the individual, his/her parents, local school personnel, and community members to assure full use of the device.

Instructional Recommendations

Guidelines should be provided for incorporating the assistive device into the student's total instructional program, including vocational education and activities of daily living. Specific recommendations regarding symbol

systems to be utilized, as well as objectives and strategies for subsequent language instruction, should also be included.

FOLLOWUP

Followup of recommendations should be scheduled after the initial assessment. Physical size, ability and other individual characteristics change, so follow-through assessment should examine the fit and function of all recommended devices. Since new devices are becoming available all the time, there should be no hesitation about discarding an obsolete device in favor of a new system that offers significant improvements.

Followup data should be used to evaluate the success of past aid placements.

Maintenance and Repair

Mechanical and electrical devices break down and need to be repaired periodically. The center should be prepared to provide at least minimum maintenance and repair services, since such on-site service is often the most efficient and cost-effective approach to the problem.

Many devices are provided under the manufacturer's warranty. Such warranties vary as to what is covered and length of coverage. Warranty information on each device should be noted carefully and referred to when repairs are required.

Third-party payers often cover the cost of maintenance and repair of devices. Insurance coverage should be checked thoroughly to determine the extent of coverage.

Evaluation

A considerable effort must be made to determine the value and potential application of devices developed and offered from a variety of sources. Advertised specifications and photographs do not provide enough information to determine the appropriateness of a device for a particular individual.

The center staff must gain "hands-on" experience with each device before they can recommend it for use. Mutual sharing of experience with particular devices will greatly aid in this process.

Although a particular device may meet all the technical and physical requirements for success, the handicapped individual simply may not like it or may find it embarrassing to use. In such cases, it would be unfortunate to recommend the purchase of a device that would not be used. Having the device on hand should eliminate problems of this kind.

Education and Outreach

Preservice training should be provided through a variety of approaches, including internships and seminars conducted at the center for students entering related professions. Inservice training should be offered on a regularly scheduled basis, and should be included among the responsibilities of all center personnel.

Because this is a relatively new and unknown service, the staff should seek statewide awareness of the center by emphasizing its program and purposes whenever possible. Outreach and education should be a major responsibility of the information specialist.

Reference Library

A library of books and references should be maintained at the center to serve as a resource for staff and colleagues throughout the area. The collection should include:

- Catalogs of existing aids;
- Specifications of commercially available aids;
- Compilation of information concerning custom designs and modifications in use;
- Videotape/photographic library of assistive device applications;
- Bibliographies, texts, and journal articles on assistive devices;
- Books, articles, etc. on intervention strategies for use with assistive devices;
- Information regarding other assistive device centers;
- A key contact person file;
- On-line computer retrieval of national information.

Assistive Device Inventory

A basic inventory of devices should be maintained at the center. Such an inventory will prove valuable when discussing the application of a particular device with anyone not familiar with it. Actual trial and/or loan of a device can provide invaluable assistance in making final recommendations regarding its purchase.

Equipment required for the center includes:

1. Mobility devices
2. Positioning systems
3. Communication and control systems
4. Self-help devices

Mobility Devices

- Wheelchairs and various adaptors
- Steerable walkers
- Caster carts
- Prone tricycles
- Swivel walkers, etc

Positioning Systems

- Prone positioners
  - — Standing
  - — Kneeling
  - — Lying
- Side lyers
- Standing tables
- Accessories
  - — Harnesses
  - — Cushions
  - — Wedges
  - — Pommels
- Seating inserts
- WC inserts, etc.

Communication and Control Systems

- Output forms
- Scanning communication aids
- Input switches/interfaces
- Encoding aids
- Direction selection aids
- Examples of symbol systems
- Language boards

Self-Help Devices

- Feeding devices
- Writing devices
- Manipulation devices

The center should have available a range from very simple mechanical devices to technologically sophisticated computerized devices from which to choose. Devices recommended by the center should be readily available for trial and subsequent purchase or rental.

Interagency Cooperation and Funding

The center should develop strong ties with all agencies and organizations in the area and nation concerned with handicapped individuals under 21 years of age.

Interagency agreements should be explored to assist in the basic operating costs of the center, as well as to provide a source of funds for purchase of assistive devices for individuals.

A number of federal and state agencies and private foundations and organizations are involved in some aspect of the provision of assistive devices. As in many other aspects of the education of handicapped children, interagency agreements can be very helpful in identifying and remedying problems in service overlap and gaps in service.

For example, while the service may be located in a public school facility, using P.L. 94-142 funds, vocational rehabilitation funds may be used to cover the cost of devices for individual students. Special education or vocational rehabilitation funds may be used to pay for evaluations, either on an individual fee-for-service or flat annual basis. Combinations of these funds may also be used. A portion of operating costs may be covered by insurance carriers as well.

Interagency agreements and the use of a variety of funding sources may help eliminate the very important problem of what happens to the child and the assistive device when age 21 is reached. Continuity of services is of vital concern, although the responsibility of education under P.L. 94-142 is ended. Possibly a cost-accounting system can be established when the center is in full operation, to allow the center to charge various agencies and third-party carriers on a fee-for-service basis.

Agreements can also be pursued with manufacturers and vendors of assistive devices. Such agreements could include:

- Special arrangements for the loan of sample devices for evaluation by the center;
- Maintenance and repair of devices;
- Testing of new devices;
- Training in the use, maintenance, and repair of devices;
- Serving as an evaluation site for device prototypes from research laboratories.

Potential sources of funding include:

- P.L. 94-142 funds;
- Rehabilitation Services Administration (and some of its units such as Bureau of Developmental Disabilities, Bureau of Vocational Rehabilitation, and Bureau for Blind and Visually Handicapped.)
- State and local health departments, vocational rehabilitation, crippled children and related agencies;
- United Cerebral Palsy, Easter Seal Society or other associations;
- Charitable contributions;
- National and state service clubs, businesses, and vendors;
- Innovative projects—ESEA-Title IV, Part C, etc.;

Whatever funding mechanism is selected, all interested agencies should be aware of, involved in, and supportive of the assistive device center.

Additional sources of funds are given in Appendix D.

II. Guidelines For Implementation

Phase-In Plan

It is recommended that the assistive device center be established in several phases over several years. It is further recommended that initial funding be provided through a state or federal grant. Funding on a fee-for-services basis should be considered when the center is fully operational.

PHASE I—Planning and Awareness Time: One Year

Extensive planning and public awareness will be required if an assistive device center is to successfully achieve the purposes outlined in the model.

It is recommended that the center director and two staff members be employed to implement this phase. The budget for Phase I should include sufficient funds for consultant and staff travel (1) to allow for maximum input from a variety of experts, and (2) to provide staff an opportunity to visit centers in other places. The cost of visits to special education program sites in the area to be covered by the center should also be included in the budget.

Employing three key individuals will help assure thorough planning, while allowing for limited but immediate service delivery. Minimal services provided on an itinerant basis, even before a center site is selected, will greatly assist in acceptance of the assistive device center when it becomes a reality. In addition, planning will be facilitated by identification of real needs as the team visits education program sites.

A series of workshops should be conducted during this phase. Expert trainers from other centers can conduct half-day to week-long workshops under contract for state education agency (SEA) and local education agency (LEA) administrators, special education teachers, general education teachers, parents, and personnel from other agencies.

Summary of Phase I activities:

1. Employ center director and obtain clerical support,
2. Employ two staff members;
3. Provide limited itinerant services;
4. Plan and conduct inservice workshops;
5. Select facility for center;
6. Purchase basic equipment and materials;
7. Visit other centers for implementation assistance.

PHASE II — Open Center Time: One Year

Phase II is based on the planning accomplished during Phase I. Planning during Phase II will be more specific, aimed at the design and development of actual operating procedures, assessment forms and procedures, operational checklists, schedules and plans for followup activities for students who are evaluated at the center.

To accomplish these tasks, the remaining staff should be employed. As in Phase I, staff with considerable expertise and experience should be sought through vacancy announcements sent to individuals listed on the Resource Lists. (See Appendix)

The staff should develop specific operating procedures together, so that the procedures are understood and accepted by all. Care should be taken to keep paperwork requirements at the minimum necessary to provide quality services. Paperwork should be integrated carefully with the requirements of other agencies which provide services to the individuals to be served by the center.

Throughout this phase, staff should continue the limited itinerant services offered during Phase I. During the second half of Phase II, limited services should be provided in the center. It is suggested that individual students from nearby schools be assessed to evaluate the effectiveness of the forms, procedures, and timelines established by the center staff. As the staff becomes more confident in its assessment procedures, more students can be scheduled in preparation for Phase III.

Summary of Phase II activities:

1. Employ remaining staff;
2. Install equipment;
3. Develop specific operations, procedures, forms, etc.,
4. Implement limited services.

PHASE III—Full-Scale Operation Time: One Year

The center staff should be prepared to operate the assistive device center as described in the model.

It is suggested that a cost-accounting method be developed to track the cost of center services related to each individual served. Such cost-accounting will enable the center to move easily toward provision of services on a fee-basis at a later date, if that approach is adopted.

Summary of Phase III activities:

1. Implement full services,
2. Develop cost-accounting system.

PHASE IV — Continued Full-Scale Operation
Time: One Year

The center should continue to operate as in Phase III. Operating procedures may need revision at this time based on experience.

Cost-accounting should be continued with an eye toward the potential of operation on a fee-for-services basis. If it is determined that the center will operate on a fee-for-services basis during Phase V, it may be useful to bill each LEA. The bill should include a note indicating that this service is covered under special funding this year, but such fees will be charged after the special funding ends.

Summary of Phase IV activities:

1. Revise services as needed;
2. Develop payment procedures.

PHASE V—Full-Scale Operation on a Fee-for-Services Basis

(Optional)

All services provided by the center to individuals should be covered by evaluation fees charged to LEAs or other agencies sending students.

Summary of Phase V activities:

1. Revise services as needed,
2. Implement payment procedures.

Estimated Budget

Phase I:		
Personnel (3 professional; 1 clerical)	$100,000	
Travel	20,000	
Consultants	25,000	
Equipment	15,000	
Materials and Supplies	5,000	
		$165,000
Phase III		
Personnel (Total Staff)	$200,000	
Travel	15,000	
Consultants	25,000	
Equipment	100,000	
Materials and Supplies	15,000	
		$355,000
Phase III:		
Personnel (Total Staff)	$200,000	
Travel	10,000	
Consultants	10,000	
Equipment	15,000	
Materials and Supplies	5,000	
		$240,000
Phase IV:		
Personnel (Total Staff)	$200,000	
Travel	10,000	
Consultants	10,000	
Equipment	15,000	
Materials and Supplies	5,000	
		$240,000

Phase V:

Inservice training and some information activities may continue to be funded through state or federal grants. Evaluation/assessment services to be funded on a fee basis.

Issues

Should satellite centers be established?

The most frequent and animated discussions with current service providers center around whether a single center could provide the quantity and quality of technological services needed.

The issue for some revolves around the need to bring together in one center all the expertise necessary to provide quality services in this highly complex area. Such services require sophisticated engineering, occupational therapy, physical therapy, etc. Each of these professionals must have additional advanced training in assistive device applications for severely handicapped individuals. These professionals must work closely together to assure quality services.

However, a single center, while assuring quality services to handicapped individuals located near the center, creates a hardship for those living significant distances away.

Potential solutions to this dilemma include:

- Establishing satellite centers;
- Training existing personnel at remote locations for delivery of services not requiring the extensive resources of the center;
- Providing itinerant services based in the center;
- Providing for overnight accommodations and sufficient funding to cover travel and living expenses for handicapped individuals, their families, and related service providers in the center budget.

While proponents for each of these approaches may be found among current service providers, the best solution would appear to be a combination of these approaches.

Services should be provided on an itinerant basis to outlying areas by center staff during the early stages of service delivery. As the center moves into full-scale operation, itinerant staff will identify handicapped individuals in need of the more extensive assessment available only in the center. In such cases, provision should be made for transportation and housing when necessary.

Simultaneous efforts should be directed at providing intensive inservice training for existing personnel in selected outlying areas. When trained, these personnel will be in a position to provide high-quality screening of potential candidates for center services. As these remote teams are trained, the need for itinerant services from the center will be reduced significantly.

What considerations are critical in determining staffing?

The staffing for the model center is based on the assumption that when the center reaches full-scale operation, a maximum of 200 additional individuals can be served each year. It is also assumed that most individuals will require followup services, so that numbers will be cumulative. After the center has been in full operation for several years, the ratio of reassessment to new assessments should be approximately 2:1. Reassessment should not be as time-consuming as new assessments.

It is important to note, however, that the number of individuals who can be served appropriately was an area of some disagreement among expert reviewers. Those who recommended more staff or fewer individuals served may prove to be correct. If so, appropriate adjustment in staffing and/or numbers to be served will need to be made.

What happens to students when they reach age 21?

A number of reviewers felt that the model program should provide services to individuals beyond the age of 21. However, the model retains the focus on individuals below 21 years of age, because of several reasons: First, the study was directed toward the feasibility of services to this age group. Second, quality services currently are more readily available to adults than to children. Third, the early provision of services can reduce the impact of a handicap more effectively than services provided later in life. Fourth, services to all ages would require an expanded staff and a far more elaborate center than that proposed here.

Where should the center be located?

A number of factors must be weighed to determine the best location for a center. A location near the geographic center of a state may not be as important as one in a population center if minimum travel requirements for the handicapped individuals to be served is the most important criterion. If the most important criterion is the availability of related professional services (i.e., physical therapy, occupational therapy, engineering, medical), the best location may be in a university school of education, engineering, or medicine. Existing centers are currently located in hospital clinics, schools of electrical engineering, departments of computer science, and in public schools.

Should vendors provide sample (demonstration) devices to the center without charge?

A number of vendors have indicated their willingness to lend sample devices to the center without charge. However, some devices are quite expensive and are produced by very small companies which operate on a small profit margin. In such cases, it may not be economically feasible for the vendor to provide a demonstration device without charge. It may be possible, however, to work out another arrangement in such cases.

Most vendors are anxious to cooperate with the center in any way possible, since one of their major problems is distribution of their products. Assistive devices require very careful interface with the handicapped individual involving fitting of the device and training in its use. Without careful fitting and training, an excellent device may be used inappropriately and, therefore, thought to be of little value.

The distribution system used for other products, such as school suppliers, simply cannot be used successfully for assistive devices. Highly skilled professionals must select and fit the device and provide the necessary training for its proper use.

Vendors see assistive device centers as a significant part of their distribution system, and are, therefore, interested in cooperating in any way possible.

Isn't life grand when after eight years you can finally say more than just a "yes" or "no"? This youngster with cerebral palsy and her teacher communicate with the simple eye-coded ETRAN Board.

APPENDIX A

SITE VISITS

Site visits were made during the feasibility study to service providers and to government agencies involved in funding.

Assistive Device Centers

Individuals at assistive devices centers visited provided valuable information and assistance throughout the study. They also made available copies of forms, budgets, inventories, and other material utilized in their operation. Centers visited are listed and described briefly below:

PAM Assistance Centre
110 Marshall Street
Post Office Box 21037
Lansing, Michigan 48909
Telephone: (517) 371-5897
Director: Arselia S. Ensign, Ph.D.

The Centre has been offering minimal services since April 1, 1979, and was to open officially after renovations made the site accessible. Staffing will be based on available funding.

The goal of the Centre is to minimize or eliminate restrictions imposed on an individual by a handicapping condition. The Center plans to provide information and assistance in the area of aids and equipment for the handicapped to persons with handicapping conditions, agency representatives, parents, teachers, therapists, and others. The Centre has been modeled after an aids centre in London, and is an extension of the Physically Impaired Association of Michigan (PAM). The atmosphere has been designed to be informal with materials and devices on display.

An informal statewide survey conducted in January 1979 provided information to be used in determining services to be available at the centre. Six levels of services will become available over time, ranging from simple referral to individual consultation and group training activities. Areas addressed are:

1. Personal/physical aids (communication, mobility, feeding)
2. Specialized educational equipment
3. Habilitation engineering and environmental adaptations affecting travel, work, and play.

The Rehabilitation Engineering Center
Children's Hospital at Stanford
520 Willow Road
Palo Alto, California 94304
Telephone: (415) 327-4800
Director: Maurice Le Blanc, MSME, C.P.

The Center opened in late 1974 and was designed to apply engineering technology for the development and provision of useful rehabilitation devices. It has become a regional resource center for Northern California.

The philosophy of the center is based on assisting a child in establishing a lifestyle with the aid of devices. An interdisciplinary staff works with the child and his or her family to determine how the child can reach anticipated developmental goals with assistance from special devices. Home, school, and social needs are integrated to assist the child in developing an individual lifestyle.

Services are provided in four main areas:

1. *Prosthetics*

The center staff provides prostheses based upon individual needs.

2. *Orthotics*

Lightweight, custom-molded braces are provided. In addition, bio-feedback devices are also used successfully for training and, in some instances, replacement of braces.

3. *Mobility devices*

Various methods to assist in mobility include steerable walkers, caster carts, prone tricycles, and swivel walkers.

4. *Communication devices*

Devices with effective interface are designed by staff to give children capabilities for visual and printed communication.

Assistive Device Center
California State University—Sacramento
6000 J Street
Sacramento, California 95819
Telephone: (916) 454-6916
Colette Coleman, Director of Client Services
A.M. Cook, Biomedical Engineering Program

The purpose of the Center is to aid disabled children and adults in the procurement of electronic and/or mechanical devices to assist them in daily living. The center was establish in August 1977 with the following goals:

1. To provide assessment of needs for assistive devices,
2. To evaluate and procure safe and effective assistive devices,
3. To develop custom-made devices,
4. To serve as a training laboratory,
5. To provide a comprehensive research program focusing on the design, development, and testing of new assistive devices,
6. To provide a continuing education program for health professionals in the utilization of devices.

An interdisciplinary team including speech pathology, biomedical engineering, and psychology provides services.

A library of assistive devices is maintained in the center. Services include language devices, learning aids, mobility devices, and aids to daily living.

Clients are assessed to determine sensory, motor, and cognitive abilities as well as to specify those disabilities for which an assistive device may be of benefit. A procurement plan is provided for each client. This may range from a recommendation for the purchase of a manufactured devices through the designing and development of a custom device in the Engineering Design Laboratory. Followup services are provided.

The Non-Oral Communication Center
Plavan School
9675 Warner Avenue
Fountain Valley, California 92708
Telephone: (714) 964-2014
Project Coordinator: Judy Montgomery, M.A. CCC

The project is designed to provide mechanical, electronic, and computerized communication devices to clients unable to use oral speech. Parents and rehabilitation teams work together. Coordination with public and private agencies is stressed.

Activities of the center include:

1. Therapy, provided by an interdisciplinary team. The most appropriate communication device is used for each child;
2. Evaluations to determine an appropriate alternative communication system for clients over three years;
3. Research to determine if alternatives will enhance the intellectual, social-emotional, and academic growth of students;
4. Inservice and workshops by request on such topics as communication alternatives and training techniques for specific devices.

A parent advisory group and monthly newsletter facilitate communication and assist in planning.

Artificial Language Laboratory
Department of Computer Science
Michigan State University
East Lansing, Michigan 48824
Directors: Dr. John Eulenberg
Dr. Morteza Rahimi

The Artificial Language Laboratory is a center for applied and basic research on computer-related problems of language processing. The focus has been on the development of software packages and special electronic devices, and the training of school district professional staff. Several programs have been developed in coordination with public school systems in Michigan. Research at the laboratory is carried out by faculty associates, graduate students, undergraduate students, and non-student staff members. Funding is obtained from sources within Michigan State University, and by grants and contracts from outside the university.

Areas of emphasis include:

1. Design of computer-based systems for persons who experience communication handicaps;
2. Design of special-purpose computer language;
3. Design of computer-based broad-band telecommunications systems;
4. Design and implementation of systems of computer-assisted instruction.

A recent and valuable contribution to the field of communication devices has come in the form of a quarterly newsletter, *Communication Outlook*, published jointly by the laboratory and the Trace Center. It is addressed to individuals interested in the application of modern technology to the needs of persons who experience communication handicaps due to neurological or neuromuscular conditions.

The Communication Aids and Systems Clinic
University of Wisconsin—Madison
1300 University Avenue
Madison, Wisconsin 53706
Telephone: (608) 263-2522
Donna DePape
Gregg C. Vanderheiden

The Clinic, which was established early in 1979, is part of the Center for Communicative Disorders of University Hospitals and operates from the Waisman Center. The overall goal of the clinic is "to provide assistance to severely speech-impaired persons in the development of effective communication and interaction via augmentative systems, and to develop a clinical service delivery model for the above process which can be replicated by other professional teams throughout the country."

Services offered at the clinic include:

1. Evaluation by an interdisciplinary team of the communication/intervention skills and skill deficits of non-vocal persons;
2. Recommendation of augmentative communication systems through which it is believed the client can most effectively develop communication/interaction skill;
3. Coordination of the implementation of augmentative communication systems and programs recommended;
4. Provision of community inservice education to persons who will be working with the individual;
5. Followup services, including re-evaluation, if necessary.

Staff includes a communication aids specialist, a positioning specialist, a communication specialist, a physical/occupational therapist, a clinic technician, and an intervention program specialist.

The clinic operates on a fee-for-service basis, according to the time spent in the clinic. If commercially available communication aids are recommended, the individual must purchase the aid. Clinic staff will offer guidance and suggestions regarding funding.

Project TEACH
Technical Educational Aids for Children with Handicaps
Rehabilitation Engineering Center
1248 La Paloma
Memphis, Tennessee 38114
Telephone: (901) 276-1752
Directors: Elaine Trefler
Douglas Hobson

Project TEACH is a cooperative project involving the Memphis City Schools, Department of Special Education, and the University of Tennessee, Rehabilitation Engineering Program. The project is a three-year demonstration grant funded by the Bureau of Education for the Handicapped designed to provide services to ten children with severe physical handicaps.

The purpose of the project is twofold: to provide a system of assistive devices designed to maximize educational opportunities for severely handicapped children, and to evaluate the effectiveness of these devices in relation to the established curriculum. Coordination between a school program and a rehabilitation engineering center allows for in-depth assessment and development of devices in the areas of seating, mobility, and communication.

Activities of the project include:

1. Assessment of individual student needs;
2. Provision of appropriate technical aids, including communication aids, mobility aids, therapeutic seating systems, and aids to daily living;
3. Training children in the use of technical aids;
4. Parent training program;
5. Inservice programs;
6. Advisory council;
7. Information dissemination.

When children are seated properly, they can develop more effectively to their fullest potential. Here a staff member at an assistive device center evaluates a child carefully and thoroughly for his seating system.

Government Agencies Involved in Funding

Site visits to two government agency offices elicited the following information relating to assistive device services and funding:

Bureau of Education for the Handicapped, Division of Media Services:

1. *The Opticon Project* — BEH has invested money in the production of Opticons which has cut the cost from $8,000 to $5,000 per unit. The project has funded production of about 600 devices a year. A major component of the project is teacher training, with 17 training sites set up nationally. The only costs to LEAs are travel expenses for teachers in training. The five-year project ended in 1979. All devices that have been placed are the property of the Office of Education. Arrangements are being made to transfer ownership to the SEA or LEA.
2. *Kurzweil Project* — 50 Kurzweil machines have been placed throughout the country, with 44 additional devices to be placed this year. Criterion for placement is the number of people who can utilize the device. Placements include state offices, local schools, libraries, and organizations. With the BEH investment, cost of a Kurzweil machine has dropped from $50,000 to $20,000.
3. *Marketing Program* — Agencies receiving funding from BEH may participate in the marketing program, which allows devices or materials developed in the field to be turned over to LINK Services, a marketing firm under contract with BEH. LINK Services handles all aspects of production, including reviewing, licensing, and the bidding process for selection of a vendor.

Rehabilitation Services Administration

1. *National Institute of Handicapped Research (NIHR).*

The purpose of this institute is to provide "leadership and resources for research and its utilization to improve the lives of people of all ages with physical and mental handicaps, especially the severely disabled." The director will work with two newly formed groups:

- An interagency team comprised of representatives from all government agencies (BEH, HUD, NASA, RSA, DOT, etc.)
- A 15-member national council nominated by the President and approved by Congress.

It is anticipated that NIHR will provide for coordination and maximum utilization of research efforts and funding of demonstration programs. In particular, NIHR's mission includes: "To improve the development, evaluation, production, and distribution of technological devices and equipment for handicapped individuals by providing financial support, consultation, and special evaluation and/or distribution centers."

2. The RSA site visit also explored the need for an online computer access system of information regarding devices. This access system should involve all states and represent information contributed by, and useful to rehabilitation engineers, other non-technical professionals, consumers, and parents.

APPENDIX B

VENDORS

No complete list of vendors of assistive devices would be possible, since this could run into hundreds of pages. However, this list includes some which cooperated in the study and others cited in the course of the study.

ABBEY MEDICAL
500 South Normandie
Los Angeles, CA 90005

ADAPTIVE THERAPEUTIC SYSTEMS, INC.
965 Dixwell Avenue
Hamden, CT 06514

ADAPTIVE LEARNING AIDS
7811 Wistar Village Drive
Richmond, VA 23228

A. R. MANN
1560 West William Street
Decatur, IL 62522

BARD/CARBA
Division of C. R. Bard, Inc.
731 Central Avenue
Murray Hill, NJ 07974

COMMUNICATIONS FOR THE HANDICAPPED
375 Arcadia Avenue
Morro Bay, CA 93442
(805) 772-1612

COMPUTERS FOR THE PHYSICALLY HANDICAPPED
7602 Talbert Avenue
Huntington Beach, CA 92647
(714) 640-2068
Bill Lynas

ED CRAWLEY EDUCATIONAL MATERIALS
Post Office Box 575
Brea, CA 92621
(714) 528-9770

DUFCO
901 Iva Court
Cambria, CA 93428
(805) 927-4392

EBSCO CURRICULUM MATERIALS
Post Office Box 1943
Birmingham, AL 35203
(205) 252-1212
(800) 633-8623

EDNALITE CORPORATION
Vision Systems Division
Ande Building
Peekskill, NY 10566

EDUCATIONAL MICROCOMPUTER SYSTEMS
20132 Crater Circle
Huntington Beach, CA 92646
(714) 963-4179

ELINFA, INC.
1725 K Street, N.W.
Washington, DC 20006
(202) 857-0684

EVEREST & JENNINGS
1803 Pontius Avenue
Los Angeles, CA 90025
(213) 879-1131

FAIRFIELD MEDICAL
10 Winters Lane
Baltimore, MD 21228

FIDELITY ELECTRONICS, LTD
8800 N.W. 36th St
Miami, FL 33178

GENERAL TELEOPERATORS, INC.
Downey, CA 90240

H C ELECTRONIC, INC.
250 Camino Alto
Mill Valley, CA 94941

KURZWEIL COMPUTER PRODUCTS
33 Cambridge Parkway
Cambridge, MA 02142
(617) 864-4700

LAKELAND TOOL WORKS AND PRODUCTS
Post Office Box 1224
Burnsville, MN 55337

G. T. LASCOMBE COMPANY
622 Prestwick Drive
Frankfort, IL 60423

MICON INDUSTRIES
252 Oak Street
Oakland, CA 94607
(415) 763-6033

MULHOLLAND
1563 Los Angeles Avenue
Ventura, CA 93003
(805) 647-5527

ORTHO-KINETICS
P.O. Box 2000
Waukesha, WI 53187

POSSUM
Post Office Box 7033
Van Nuys, CA 91409
(213) 989-5592

PRENTKE ROMICH COMPANY
Electronics Center
RD 2, Box 191
Shreve, OH 44676
(216) 567-2906

J. A. PRESTON CORP.
71 Fifth Ave.
New York, NY 10003
(212) 255-8484
(800) 221-2425

ROMICH, BEERY & BAYER, INC.
RD 2, Box 191
Shreve, OH 44671
(216) 567-2906

RUSH
11100 South Mt. Vernon
Colton, CA 92324
(714) 825-7570

FRED SAMMONS, INC.
Box 32
Brookfield, IL 60513

SCITRONICS, INC.
Post Office Box 5344
Bethlehem, PA 18015
(215) 868-7220

SCM CORPORATION
Consumer Products Division
Smith-Corona Group
65 Locust Avenue
New Canaan, CT 06840

SI-COM
7545 Whitlock Avenue
Playa Del Rey, CA 90291
(213) 823-1202

TELESENSORY SYSTEMS, INC.
Post Office Box 10099
Palo Alto, CA 94304
(415) 493-2626

THERAPLAY PRODUCTS
29-24 40th Ave.
Long Island City, NY 11101

TOUCH TURNER COMPANY
443 View Ridge Drive
Everett, WA 98203

ULVERSCROFT LARGE PRINT BOOKS
Post Office Box 3055
Stamford, CT 06905

BORG WARNER
600 West University Drive
Arlington Heights, IL 60004

WELSH-ALLYN
Skaneateles Falls, NY 13153
(315) 685-5788

ZYGO COMMUNICATION SYSTEMS
Zygo Industries, Inc.
Post Office Box 1008
Portland, OR 97207
(503) 297-1724

APPENDIX C

RESOURCE LISTS

Throughout the NASDSE study, sources and references were gathered, and contacts were established with individuals and organizations involved in the development and provision of assistive device services and equipment. The following resource lists were compiled from a review of the literature, contracts with recognized authorities in the field, a review of professional publications and materials, and a telephone survey of the states. It is not intended to be all-inclusive, but is presented as a helpful starting-point for those seeking additional information and resources. Individual names and telephone numbers are given where available.

The resources are listed in the following categories:

1. National and international references — institutions and organizations;
2. Access systems;
3. Sources of information on assistive devices — agencies, resource centers, rehabilitation centers, schools, at federal, state and local levels;
4. Combined state listing of audiotape transcription services;
5. Rehabilitation Engineering Centers;
6. Bibliography of reference manuals and other publications.

1. National and International References

ACCENT ON INFORMATION
Post Office Box 700
Bloomington, IL 61701
(309) 378-4213

AMERICAN ALLIANCE FOR HEALTH, PHYSICAL EDUCATION AND RECREATION
Physical Education and Recreation for the Handicapped:
Information and Research Utilization Ctr.
1201 — 16th Street, N.W.
Washington, DC 20036
(202) 833-5547

AMERICAN ASSOCIATION FOR THE EDUCATION OF SEVERELY AND PROFOUNDLY HANDICAPPED
1600 West Armory Way
Seattle, WA 98119
(206) 283-5055
Beverly Kershaw

AMERICAN FOUNDATION FOR THE BLIND
15 West 16 Street
New York, NY 10011
(212) 924-0420

AMERICAN OCCUPATIONAL THERAPY ASSOCIATION
6000 Executive Boulevard
Rockville, MD 20852
(301) 770-2200

AMERICAN ORTHOTIC & PROSTHETIC ASSOC.
1440 N Street, N.W.
Washington, DC 20005
(202) 234-8400

AMERICAN PHYSICAL THERAPY ASSOCIATION
1156 — 15th Street, N.W.
Washington, D.C. 20005
(202) 466-2070

AMERICAN PRINTING HOUSE FOR THE BLIND
P.O. Box 6085
Louisville, KY 40206
(502) 895-2405

AMERICAN SPEECH AND HEARING ASSOCIATION
10801 Rockville Pike
Rockville, MD 20852
(301) 897-5700

ASSOCIATION FOR CHILDREN WITH LEARNING DISABILITIES (ACLD)
1243 East Catalpa
Springfield, MO 65804
(417) 862-7826
Janet Trotter

BUREAU OF EDUCATION FOR THE HANDICAPPED
U.S. Office of Education
400 Maryland Avenue, S.W.
Washington, DC 20202
(202) 245-2709

COMMUNICATIONS FOUNDATION
600 New Hampshire Avenue, N.W.
Washington, DC 20037
(202) 333-0800

DEAFNESS RESEARCH FOUNDATION
366 Madison Avenue
New York, NY 10017
(212) 682-3737

HANDICAPPED LEARNER MATERIALS DISTRIBUTION CENTER
Indiana University
Bloomington, IN 47405
(812) 337-0531

JOB DEVELOPMENT LAB
Rehabilitation Research & Training Ctr.
George Washington Univ. Medical ctr.
2300 Eye Street, N.W.
Washington, DC 20052

LIONS INTERNATIONAL
York and Cermak Roads
Oak Brook, IL 60521
(312) 986-1700

MIDWEST REGIONAL RESOURCE CENTER
Drake University
1332 — 26th Street
Des Moines, IA 50311

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Technology Utilization Program
600 Independence Avenue, S.W.
Washington, DC 20546
(202) 755-3140

NATIONAL AMPUTATION FOUNDATION
12-45 — 150 Street
Whitestone, NY 11357
(212) 767-0596

NATIONAL ASSOCIATION OF THE DEAF
814 Thayer Avenue
Silver Spring, MD 20910
(301) 587-1788

NATIONAL ASSOCIATION FOR HEARING AND SPEECH ACTION
814 Thayer Avenue
Silver Spring, MD 20910
(301) 588-5242

NATIONAL EASTER SEAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS
2023 West Odgen Avenue
Chicago, IL 60612
(312) 243-8400

NATIONAL EYE RESEARCH
18 South Michigan Avenue
Chicago, IL 60603
(312) 726-7866

NATIONAL EYE INSTITUTE
National Institutes of Health
Building 31, Room 6A-25
Bethesda, MD 20014
(301) 496-5248

NATIONAL FOUNDATION/MARCH OF DIMES
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100

NATIONAL INFORMATION CENTER FOR SPECIAL EDUCATION MATERIALS

University of Southern California
Los Angeles, CA 90007
(213) 741-6681

NATIONAL INSTITUTE OF NEUROLOGICAL & COMMUNICATIVE DISORDERS AND STROKE
National Institutes of Health
Building 31
Bethesda, MD 20014
(301) 496-5751

NATIONAL INSTITUTE FOR REHABILITATION ENGINEERING
Consumer Advisory Service
97 Decker Road
Butler, NJ 07405
(201) 838-2500

NATIONAL LIBRARY OF MEDICINE
National Institutes of Health
8600 Rockville Pike
Bethesda, MD 20014
(301) 496-6095

NATIONAL LIBRARY SERVICE FOR THE BLIND AND PHYSICALLY HANDICAPPED
Library of Congress
1291 Taylor Street, N.W.
Washington, DC 20542
(202) 882-5500

NATIONAL PARAPLEGIA FOUNDATION
333 North Michigan Avenue
Chicago, IL 60601
(312) 346-4779

NATIONAL REHABILITATION INFORMATION CTR.
308 Mullen Library
The Catholic University of America
Washington, DC 20064

NATIONAL RETINITIS PIGMENTOSA FOUNDATION
8331 Mindale Circle
Baltimore, MD 21207

NATIONAL TECHNICAL INFORMATION SERVICE
Department of Commerce
5285 Port Royal Road
Springfield, VA 22151
(703) 557-4600

OHI CLEARINGHOUSE ON THE HANDICAPPED OHI/DHEW
338-D Humphrey Building
Washington, DC 20201
(202) 245-1961

ONLINE INFORMATION INTERNATIONAL INC.
6455 Windermere Circle
Rockville, MD 20852
(301) 530-8513

PEOPLE-TO-PEOPLE COMMITTEE FOR THE HANDICAPPED
1025 Connecticut Avenue, N.W.
Washington, DC 20036
(202) 785-0755

RECORDINGS FOR THE BLIND
15 East 58 Street
New York, NY 10022
(212) 751-8602

REHABILITATION SERVICES ADMINISTRATION
Office of Human Development, DHEW
330 C Street, N.W.
Washington, DC 20201
(202) 447-8477

RESEARCH PROJECT BRANCH
Division of Innovation & Development
Bureau of Education for the Handicapped
400 Maryland Avenue, S.E.
Washington, DC 20202
(202) 245-2275
Albert T. Dittmann, M.D.

SPECIAL OFFICE FOR MATERIALS DISTRIBUTION
Indiana University Audio-Visual Center
Bloomington, IN 47401

SMITHSONIAN SCIENCE INFORMATION EXCHANGE
1730 M Street, N.W.
Washington, DC 20036
(202) 381-4211

VETERANS ADMINISTRATION
810 Vermont Avenue, N.W.
Washington, DC 20420
(202) 389-2214

CANADA

ONTARIO CRIPPED CHILDREN'S CENTER
P.O. Box 1700
P.O. Station "R"
Toronto, M4G IR8, Canada
Morris Milner, Ph.D.

MCMASTER UNIVERSITY
Department of Bioengineering
Chedoke Rehabilitation Centre
Ontario, Canada

ENGLAND

AIDS CENTER
DISABLED LIVING FOUNDATION
346 Kensington High Street
London, W148NS, England

CASTLE PRIORY COLLEGE
Thames Street
Wallingford, OXON, England

SWEDEN

ICTA INFORMATION CENTRE
FACK S-161-03 Bromma 3
Sweden

2. ACCESS SYSTEMS

International Commission on Technical Aids, Housing and Transportation (ICTA)— a commission within Rehabilitation International Located in Stockholm, Sweden, it promotes an international exchange of information through publications, conferences, and seminars.

Contact: ICTA Information Centre
FACK, S-161 25 Bromma 1
Sweden

National Rehabilitation Information Center — a product of a five-year grant from the Rehabilitation Services Administration, DHEW, is located in Washington, D.C., and will have a collection of RSA research reports, books, journals, and conference proceedings, and provide information services to professionals, consumers, and the public. Searches are available.

Contact: National Rehabilitation Information Center
308 Muller Library
The Catholic University of America
Washington, D. C. 20064

Accent on Information (AOI)— a computerized retrieval system containing information related to the handicapped. Searches are available. They also publish a quarterly magazine *Accent on Living* and a product resource guide *Accent Buyer's Guide.*

Contact: Accent
Gillum road and High Drive
Post Office Box 700
Bloomington, Illinois 61701

London Aids Centre of the Disabled Living Foundation — has over 900 adaptive equipment and devices on display. Information on availability, manufacture, and price is provided. Seminars are held every two months.

Contact: Disabled Living Foundation
346 Kensington High Street
London W14 8NS, England

Electronic Information Exchange System (EIE) — a computer network which links representatives from research and development, rehabilitation engineering, information sciences, manufacturing, special education, and consumers. The project is funded by the National Science Foundation.

Contact: Innovative Systems Research, Inc.
103 Cooper River Plaza East
Pennsauken, New Jersey 08109

Communication Outlook — a quarterly newsletter for individuals interested in the application of technology to the needs of persons who experience communicative handicaps due to neurological or neuromuscular conditions. It is edited and published jointly by the Artificial Language Laboratory, Michigan State University, and the Trace Center for the Severely Communicatively Handicapped, University of Wisconsin.

Contact: Artificial Language Laboratory
Computer Science Department
Michigan State University
East Lansing, Michigan 48824

3. SOURCES OF INFORMATION BY STATE

ALASKA

WHALEY CENTER
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MICHIGAN

MICHIGAN SCHOOL FOR THE BLIND
715 West Willow Street
Lansing, MI 48906
(517) 373-7916

MINNESOTA

MINNESOTA INSTRUCTIONAL MATERIALS CENTER
3554 White Bear Avenue
White Bear Lake, MN 55110

NEW HAMPSHIRE

NORTH COUNTY EDUCATIONAL RESOURCE CENTER
(603) 466-2090
Barbara Reepski

SERVICES FOR LEARNING-DISABLED, PHYSICALLY HANDICAPPED, VISUALLY IMPAIRED
(603) 224-4039
Eileen Keim

NEW YORK

COLUMBIA UNIVERSITY
Department of Special Education
New York, NY 10027

STATE EDUCATION DEPARTMENT
Bureau of Program Development
Elk Street, Room 117
Albany, NY 12234
(518) 474-2251
Lawrence C. Gloeckler, Bureau Chief

PENNSYLVANIA

CENTRAL PENNSYLVANIA SPECIAL EDUCATION RESOURCE CENTER
5601 North Front Street
Harrisburg, PA 17110
(717) 599-5571

PENNSYLVANIA MATERIALS CENTER
5601 North Front Street
Harrisburg, PA 17110
(717) 599-5773

SOUTH CAROLINA

CHARLESTON COUNTY PUBLIC SCHOOLS
1170 Jenkins Avenue
North Charleston, SC 29406
(803) 774-7463
Kenneth Gearhart

SCHOOL DISTRICT OF GREENVILLE
Post Office Box 2848
Greenville, SC 29602
(803) 242-6450
Ms. Barry Dowd

RICHMOND SCHOOL DISTRICT # 1
1225 Oak Street
Columbia, SC 29201
(803) 254-2440
Mrs. Barbara Bradford

TENNESSEE

STATE DEPARTMENT OF EDUCATION
Media Center
Smyrna, TN 37167
Tom Hunton

WASHINGTON

DEPOSITORY FOR VISUALLY IMPAIRED
10020 Glavelly Lake Drive, S.W.
Tacoma, WA 98499
(206) 756-9523
Bill Kalenius

WISCONSIN

PROFESSIONAL SERVICES CENTER
1700 West State Street
Janesville, WI 53549
(608) 755-2949
Jerry Atkins, Coordinator

WYOMING

ALBANY COUNTY ERC FACILITATOR
Laramie, WY 82070
(307) 742-8144
Beverly Jacobs

LARAMIE COUNTY ERC FACILITATOR
Cheyenne, WY 82001
(307) 632-0591
Lawrence Maudy

5. REHABILITATION ENGINEERING CENTERS

RANCHO LOS AMIGOS HOSPITAL
Rehabilitation Engineering Center
7601 East Imperial Highway
Downey, CA 90242
(213) 922-7167
Dr. James B. Reswick, Project Director
Core Area: Functional electrical stimulation of paralyzed nerves and muscles

MOSS REHABILITATION HOSPITAL
Rehabilitation Engineering Center
Kruzen Research Center
12th Street and Tabor Road
Philadelphia, PA 19141
(215) 329-9580
A. Bennett Wilson, Jr., Project Director
Core Area: Locomotion and mobility

CHILDREN'S HOSPITAL MEDICAL CENTER
Rehabilitation Engineering Center
300 Longwood Avenue
Boston, MA 02115
(617) 734-6000, ext 2866
Dr. William Berenberg, Project Director
Core Area: Neuromuscular control using sensory feedback systems

TEXAS INSTITUTE FOR REHABILITATION AND RESEARCH
Rehabilitation Engineering Center
1333 Moursund Avenue
Houston, TX 77030
(713) 797-1440
Dr. William A. Spencer, Project Director
Core Area: Effects of pressure on tissue

NORTHWESTERN UNIVERSITY
Rehabilitation Engineering Center
345 East Superior Street
Chicago, IL 60611
(312) 649-8560
Dr. Clinton L. Compere, Project Director
Core Area: Internal total joint replacement

UNIVERSITY OF IOWA
Rehabilitation Engineering Center
Orthopedics Department
Dill Children's Hospital
Iowa City, IA 52242
(319) 356-3468
Dr. Richard A. Brand, Project Director
Core Area: Low back pain

SMITH-KETTLEWELL INSTITUTE OF VISUAL SCIENCES
Rehabilitation Engineering Center
2232 Webster Street
San Francisco, CA 94115
(415) 563-2323
Dr. Lawrence A. Scadden, Project Director
Core Area: Sensory aids—blind and deaf

UNIVERSITY OF TENNESSEE
Rehabilitation Engineering Center
Department of Orthopedic Surgery
1248 La Paloma Street
Memphis, TN 38114
(901) 525-2531
Dr. Robert E. Tooms, Project Director
Core Area: Mobility systems for severely disabled

CASE WESTERN RESERVE UNIVERSITY
School of Medicine
Rehabilitation Engineering Center
2219 Adelbert road
Cleveland, OH 44106
(216) 444-3040
Dr. Charles H. Herndon, Project Director
Core Area: Upper extremity functional electrical stimulation

CEREBRAL PALSY RESEARCH FOUNDATION OF KANSAS, INC.
Rehabilitation Engineering Center
4320 East Kellogg Street
Wichita, KS 67218
(316) 683-5627
John F. Jonas, Jr., Project Director
Core Area: Vocational aspects of rehabilitation

UNIVERSITY OF MICHIGAN
Rehabilitation Engineering Center
College of Engineering
225 West Engineering
Ann Arbor, MI 48109
(313) 764-8464
Prof. J. Raymond Pearson, Project Director
Core Area: Automotive transportation for the handicapped

UNIVERSITY OF VIRGINIA SCHOOL OF MEDICINE
Rehabilitation Engineering Center
P.O. Box 3368, Univ. Station
Charlottesville, VA 22903
(804) 977-6736
Dr. Warren G. Stamp and Dr. Colin A. McLaurin, Project Directors
Core Area: Spinal cord injury

CHILDREN'S HOSPITAL AT STANFORD
Rehabilitation Engineering Center
520 Willow Road
Palo Alto, CA 94304
(415) 327-4800
Maurice A. LeBlanc, Project Director
Core Area: Controls

REHABILITATION ENGINEERING RESEARCH PROGRAM

NEW YORK UNIVERSITY
Medical Rehabilitation R&T Center
400 East 34 Street
New York, NY 10016
(212) 679-3200
Dr. Howard A. Rusk, Project Director
Core Area: Evaluation of functional performance of devices for severely disabled individuals

TUFTS UNIVERSITY
Medical Rehabilitation R&T Center
171 Harrison Avenue
Boston, MA 02111
(617) 956-5625
Dr. Paul Corcoran, Project Director
Core Area: Communication systems for individuals with non-vocal disabilities

INTERNATIONAL REHABILITATION ENGINEERING CENTERS

REHABILITATION ENGINEERING
Wafa Wa Amai
Dr. Salah Hommossani, Project Director
Under Secretary of State for Rehabilitation, Ministry of Social Affairs
Mugamaa Building, Tahrir Square
Cairo, Egypt
Core Area: Architectural barriers

REHABILITATION ENGINEERING CENTER, INSTITUTE OF ORTHOPAEDIC SURGERY AND REHABILITATION
Academy of Medicine
Dzierzynskiego 135, 61 545 Posnan
Poland
Prof. A. Senger, M.D., Project Director
Core Area: Upper extremity disabilities

UNIVERSITY OF LJUBLIANA REHABILITATION ENGINEERING CENTER
Faculty of Electrical Engineering
61001 Ljubljana, Trzaska 25
Yugoslavia
Dr. Lojze Vodovnik, Project Director
Core Area: Functional electrical stimulation

FEDERAL GOVERNMENT AGENCIES CONCERNED WITH REHABILITATION ENGINEERING

Architectural and Transportation Barriers Compliance Board
Mary E. Switzer Building, Room 1010
Washington, DC 20201

Biomedical Engineering Program
National Institute of Neurological and Communicative Disorders and Stroke
Federal Building, Room 1016A
7550 Wisconsin Avenue
Bethesda, MD 20014

Bureau of Education for the Handicapped
Office of Education
Regional Office Building, Room 2010
7th and D Street, S.W.
Washington, DC 20201

Committee of Technology Utilization
U.S. House of Representatives
Washington, DC 20515

Division of Device Research and Testing
Bureau of Medical Devices and Diagnostic Products
Food and Drug Administration
8757 Georgia Ave.,
Silver Spring, MD 20910

National Aeronautics and Space Administration
600 Independence Avenue, S.W.
Washington, DC 20546

National Science Foundation
1800 G Street, N.W.
Washington, DC 20550

Office for Handicapped Individuals
338D Hubert Humphrey Bldg.
Washington, DC 20201

Bureau of Developmental Disabilities
Mary E. Switzer Building, Room 3070
Washington, DC 20201

Office of Environment and Safety
Department of Transportation
400 Seventh Street, S.W., Room 9422
Washington, DC 20024

Office of Independent Living for the Disabled
Department of Housing and Urban Development
7th and D Streets, S.W.
Washington, DC 20410

Rehabilitation Services Administration
Mary E. Switzer Building
Washington, DC 20201

Dept. of Medicine & Surgery
Veterans Administration
810 Vermont Avenue, N.W.
Washington, DC 20420

6. BIBLIOGRAPHY

Accent on Living Buyer's Guide. Bloomington, Indiana 61701: Cheever Pub. Co. 1979.

"A Feasibility Study of Product Testing and Reporting for Handicapped Consumers." Consumers Union of the United States, Inc., 256 Washington Street, Mount Vernon, New York 10550

"Suggested Approach for Establishing a Rehabilitation Engineering Information Service for the State of California." Lo F. Christy, et al. SRI International, September 1978.

Abelson, Carol and Pfeiffer, David. "Communication Aids for the Non-Verbal Severely Handicapped child—A Multi-Dimensional Challenge." *Canadian Journal of Occupational Therapy,* Winter 1975, 42(2).

Christman, D. "Problems of Communication of Individuals with Cerebral Palsy." *Cerebral Palsy Review,* September/October 1956.

Copeland, K. *Aids for the Severely Handicapped.* Spector Publishing Co., Ltd., London, England. 1974.

(The) Directory of National Information Sources on Handicapping Conditions and Related Services. Clearinghouse for the Handicapped, Office for the Handicapped, 338-D H. Humphrey Building, Washington, D.C. 20201

Equipment for the Disabled. National Fund for Research into Crippling Diseases, 2 Foredown Drive, Portslade, Brighton, Sussex BN42BB, England

Functional Aids for the Multiply Handicapped. Hagerstown, Md., Harper and Row Publishers

Green Pages REHAB Source Book, Directory of Products and Services for the Physically Disabled. Sourcebook Publications, P.O. Box 1586, Winter Park, FL 32790. $15. 1979.

Gutman, Ernest M. and Gutman, Carolyn R. *Wheelchair to Independence.* Springfield, Illinois: Charles C. Thomas, 1968.

Harris, Deborah. *A Survey of Critical Factors in Evaluating Communication Aids.* The Trace Center, Madison, Wisconsin 53706, 1975.

Kafafas, H. *A Study of Man-Machine Communication Systems for the Handicapped.* 3 volumes (1970-73). Cybernetics Research Institute, Washington, D. C.

Kaminetz, Herman L., M.D. *The Wheelchair Book: Mobility for the Disabled.* Springfield, Illinois: Charles C. Thomas, 1969.

Larson, Thalia. *Communication for the Non-Verbal Child.* Johnstown, Pennsylvania: Majex Associates, Inc. 1975.

Lloyd, Lyle (Ed.). *Communication Assessment and Intervention Strategies.* Baltimore: University Park Press, 1976.

Lowman, Edward, M.D. and Klinger, Judith Lannefield, O.T.R. *Aids to Independent Living: Self-Help for the Handicapped.* New York: McGraw-Hill Book Company, 1969.

Luster, M. J., *Preliminary Selected Bibliography of Articles, Brochures and Books Related to Communication Techniques and Aids for the Severely Handicapped.* Trace Center, 922 ERB, University of Wisconsin, Madison, Wisconsin 53706, 1974.

Luster, M J. and Vandenheiden, G C. *Preliminary Annotated Bibliography of Communication Aids.* Trace Center, 922 ERB, University of Wisconsin, Madison, Wisconsin 53706, 1974.

(A) Manual for Cerebral Palsy Equipment. Easter Seal Society for Crippled Children and Adults, Inc., 2023 So. Ogden Avenue, Chicago, Illinois 60612

Nonoral Communication System Project. Beverly Vicker, Editor. Campus Store Publishers, The University of Iowa, 17 West College, Iowa City, Iowa 52242, 1964/1973.

Non-Vocal Communication—Resource Book. Edited by Gregg C. Vandenheiden. Baltimore: University Park Press.

Non-Vocal Communication Techniques and Aids for the Severely Physically Handicapped. Edited by Gregg Vandenheiden and Kate Grilley. Baltimore: University Park Press. This and the preceding publication provide lists of basic inventories of assistive devices for communication.

Ontario Crippled Children's Centre Symbol Communication Research Project, Ontario Crippled Children's Centre Bliss Project Team. Toronto, Ontario: Crippled Children's Centre, 1973.

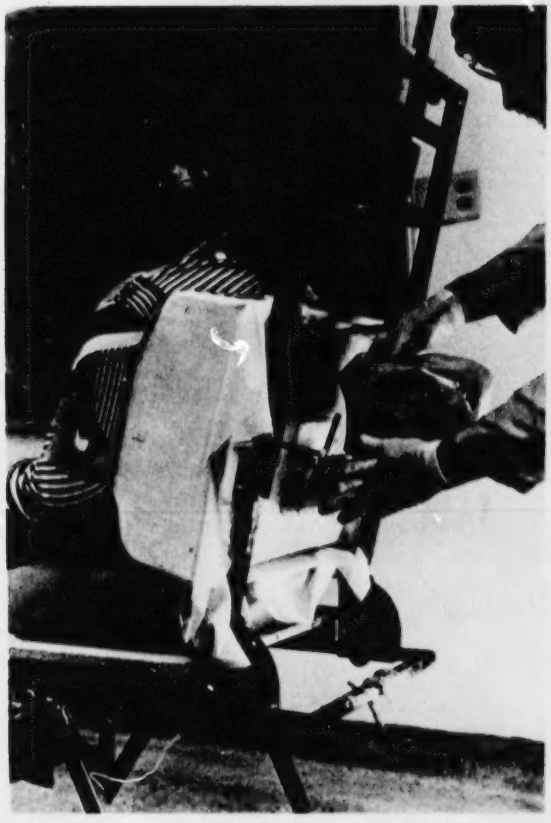
Rahimi, M. A. and Eulenberg, J. B. "A Computer Terminal with Synthetic Speech Output." Paper presented at the National Conference on the Use of On-Line Computers in Psychology, St. Louis, Missouri, October 31, 1973.

Rehabilitation Engineering Sourcebook. Falls Church, Va 22046: Institute for Information Studies, 400 N Washington St.

Robinault, Isabel P. *Functional Aids for the Multiply Handicapped.* Hagerstown, Maryland: Medical Department, Harper & Row, 1973.

Vandenheiden, G C. and Luster, M. J. "Non-Vocal Communication Techniques and Aids as Aids to the Education of the Severely Physically Handicapped." *A State of the Art Review,* Cerebral Palsy Communication Group, University of Wisconsin—Madison, Wisconsin 53706, 1975.

Wagner, Ethel. *Augmentative and Alternative Communication for the Severely Handicapped* (a bibliography). 1621 Greenwich Lane, Janesville, Wisconsin 53545, 1977.



Technician can custom fit a severely involved cerebral palsied student quickly and relatively inexpensively with two-component polyurethane foam, contained in a mold, that conforms exactly to the individual's shape within ten minutes.

APPENDIX D

FUNDING

A major focus of an assistive device center's first year's activities will be to obtain funding for operation of the center. The following references contain information in this area:

Federal Funding

The Federal Register gives a daily update of new federal funding opportunities.

Commerce Business Daily publishes notices for products and services wanted or offered by the United States Government.

Federal Programs Administered or Monitored by the Bureau of Education for the Handicapped describes programs and funding sources within the bureau.

The following is a list of potential federal funding sources which may be applicable to an Assistive Device Center:

Office of Education:

1. Part B, EHA (State Plan Program for Education of Handicapped)

Purpose— To initiate, expand, and improve education and related services to handicapped preschool, elementary, and secondary children.

2. Public Law 89-313 (Program for Education of Handicapped Children in State-Operated or Supported Schools)

Purpose—To strengthen educational programs for handicapped children in state-operated or state-supported schools.

3. Part C, EHA (Programs for Severely Handicapped Children and Youth)

Purpose—To develop demonstration centers and services for severely handicapped children and youth.

4. Part D, EHA (Training Personnel for the Education of the Handicapped)

Purpose—To prepare and inform educators of handicapped children and to ensure an adequate supply of personnel in this area through preservice and inservice training.

5. Part D, EHA (Information and Recruitment)

Purpose—To disseminate information, to provide referral services for parents of handicapped children, to recruit educational personnel into hard-to-staff areas.

6. Part D, EHA (Preschool Incentive Grants)

Purpose—To provide an incentive to states to serve and further develop services for handicapped children, ages 3-5.

7. Part D, EHA (Severely Handicapped Projects)

Purpose—To meet education and training needs of severely handicapped children and youth by helping them become as independent as possible.

8. Part D. EHA (State Aid for Programs for the Handcapped)

Purpose—To assist in initiation, expansion, and improvement of programs and projects for the handicapped at preschool, elementary, and secondary levels through grants to states and outlying areas.

9. Part E, EHA (Research and Demonstration Programs)

Purpose—To promote and demonstrate new knowledge in the education of handicapped children for support of research and related purposes concerning education, physical education, and recreation for handicapped children.

10. Title IV, ESEA (Innovation in Special Education)

Purpose—Grants for innovative and exemplary programs and projects which are designed to demonstrate ways of making a substantial contribution to the solution of critical problems in the field of special education.

11. Title III, ESEA (Supplemental Education Centers and Services, Guidance, Counseling, and Testing)

Purpose—Money for innovative and exemplary projects to demonstrate solutions to critical education needs of the state. Fifteen percent of funds must be reserved for programs for handicapped children.

12. Part C, EHA (Regional Resource Centers)

Purpose—Federal ssistance to improve education of handicapped children. Diagnostic and education programing services to handicapped children.

Office of Human Development:

1. Rehabilitation Services and Facilities—Basic Support

Purpose—Vocational rehabilitation services to handicapped individuals including diagnosis, comprehensive evaluation, counseling, training, employment placement, reader service, interpreter service. Assists with payment for medical and related services, prostheses, transportation, etc.

2. Rehabilitation Services and Facilities— Special Projects

Purpose—Money for projects and demonstration programs which provide services for the physically and mentally handicapped—to expand and improve services above those provided in Basic Support Program.

3. Rehabilitation Research and Demonstrations

Purpose—to discover, test, demonstrate, and promote utilization of new concepts and devices to provide rehabilitative services to the handicapped.

4. Developmental Disabilities—Basic Support

Purpose—To develop and implement comprehensive and continuing plan to meet needs of developmentally disabled individuals. For direct services, facilities construction, and administration.

5. Developmental Disabilities—Special Projects

Purpose—Money for partial support for services to developmentally disabled, public awareness programs, information. Demonstration of new or improved services, training, coordination of resources, technical assistance. Twenty-three percent of funding for projects.

6. Developmental Disabilities — Demonstration Facilities and Training

Purpose—To assist with cost of administration and operation of demonstration facilities and interdisciplinary training for program staff, providing services to developmentally disabled.

7. Crippled Children's Services

Purpose—To provide medical and related services to crippled children and to children suffering from conditions that lead to crippling. Available to all crippled children under 21. Diagnostic services provided regardless of eligibility.

8. Maternal and Child Health Services

Purpose—to provide comprehensive health care services to school-age and preschool-age children judged to be vulnerable to health risks. Provides for full range of screening, diagnostic, dental and medical treatment services, counseling, and follow-up included.

The Office for Handicapped Individuals, room 338D, Hubert H Humphrey Bldg., Washington, D.C. 20201 has available free *Federal Assistance For Programs Serving The Handicapped.*

Private Funding Sources

Consideration should be given to private funding sources. The following resources contain information about potential sources:

The Foundation Directory, 6th Edition, is published by the Foundation Center, New York, 1977. Distributed by Columbia University Press, Irvington, NY 10533, it contains entries for the 2,818 largest foundations in the country.

National Data Book is published by the Foundation Center, 888 Seventh Avenue, New York, New York 10019. It contains listings of more than 21,000 non-profit organizations.

Foundation News is a bi-monthly publication that provides information on recent grants and statistics on United States foundations. It gives information on writing proposals and criteria used in assessing proposals. Published by Council on Foundations, Box 783, Old Chelsea Station, New York, NY 10011.

A Bibliography of State Foundation Directories is available for each state and is published by the Foundation Center, 888-7th Avenue, New York, New York 10019.

The Handicapped Funding Directory, A Guide To Sources of Funding in The United States for Handicapped Programs and Services, lists federal and foundation support by state and Catalog of Federal Domestic Assistance number. 1978-79 edition $14.50. Research Grant Guides, P.O. Box 357, Oceanside, NY 11572.